numbers of gametes G, bearing albino with pink-eye, and G' bearing colour with pink-eye. Consequently from $GG' \times GG'$ we expect and obtain $GG + 2GG' + G'G'$; and from $GG' \times G$ equal numbers (approximately) of GG and GG'. So far, GG are pink-eyed albinos; GG' are dark-eyed with *some* colour in coat; $G'G'$ are pink-eyed, but with *some* colour in coat.

If we do not consider what *particular* colour GG' and $G'G'$ will have, we may treat all gametes G' as identical. But after crossing with albino such a condition would be unusual. The colour brought in by the original G' is generally in part resolved, and various sorts of G' gametes are formed, viz. aG', bG', cG', $abcG'$, &c. Therefore when the hybrids breed together there will be GG' zygotes of several colours, viz. $G.aG'$, $G.bG'$, $G.cG'$, &c.; also $G'G'$ zygotes of several colours, viz. $aG'.aG'$, $aG'.bG'$, &c. Each combination will have its appropriate colour and frequency, though (if the regularity be maintained) all GG' will have dark eyes and *some* colour, and all $G'G'$ pink eyes and *some* colour. But as the hybrid produces G gametes equal in number to the various G' gametes collectively, $GG' \times GG'$ will give on an average one albino in four offspring (experiment gave nine in thirty-seven); and there is no question of one in nine. We are only concerned with *one* hypothesis (that I have set forth in "Mendel's Principles of Heredity," p. 29), and with this hypothesis the published facts are in admirable agreement.

Heterogeneous offspring from crossing two seemingly pure races may seem to Prof. Weldon an "amazing" phenomenon, but it is one with which the breeder early becomes familiar. Even albinos need not be pure or their gametes homogeneous in characters other than albinism.

Grantchester, Cambridge, May 1. W. Bateson.

Mr. Bateson reconciles his statements in Nature of March 19 and April 23 by explaining that in his first letter, when he describes certain mice as of constitution $G'G'$, he is deliberately denoting a whole series of different gametes by the same name.

The suggested heterogeneity among the gametes of pure albinos is now said to affect characters other than albinism, and is therefore wholly irrelevant. The avowed vagueness in the use of the symbol G' makes it uncertain whether the fawn-and-white mice are now supposed to produce gametes of different character (with regard to coat-colour and eye-colour) or not. If the gametes of all the fawn-and-white mice used are similar, then all hybrids between these and albino mice are of similar constitution, and the fact that some are yellow, some grey, and some black is left unaccounted for. If the fawn-and-white mice produce even three kinds of gametes, G'_1, G'_2 and G'_3, then on crossing with albinos the hybrids GG'_1, GG'_2 and GG'_3 may be of different coat-colour; but since the fawn-and-white mice always breed true to colour when paired *inter se*, it surely follows that the combinations $G'_1G'_1$, $G'_1G'_2$, $G'_2G'_2$, &c., which arise from such unions (some homozygotes and some heterozygotes) give rise to mice of similar colour. It is this consequence of heterogeneity in a pure-breeding race which seems to me amazing.

In assuming that coat-colour is resolved into simpler elements when hybrids form their gametes, Mr. Bateson follows Mendel; but in such cases Mendel assumes that all the various kinds of gametes, produced by the hybrid, occur with equal frequency, and Mr. Bateson has elsewhere attempted to bring this assumption into relation with the phenomena of cell-division ("Mendel's Principles of Heredity," p. 30). In trying to fit Mr. Darbishire's facts by a Mendelian formula, Mr. Bateson abandons this hypothesis; he now says that a hybrid mouse produces (1) a series of different kinds of colour-bearing gametes, and (2) a number of gametes bearing the characters white coat and pink eye, *equal to the sum of all the other kinds of gametes together*. This departure from Mendel's hypothesis is masked in Mr. Bateson's first letter by the simple device of calling the whole series of different colour-bearing gametes by the same name G'.

Mendel's own view of the way in which compound characters behave gives a maximum possibility of one pure recessive albino among sixteen offspring of hybrids; a non-Mendelian view, lately put forward by Mr. Bateson in another case of colour-resolution (*Proc.* Camb. Phil. Soc., vol. xii. p. 52), gives a maximum of one in *nine*; the view he now suggests for mice gives one in *four*. By modifying first one and then another of Mendel's statements, his name is made to shelter almost any hypothesis, and almost any experimental test is evaded.

In the next number of *Biometrika* Mr. Darbishire will publish a series of new results, which have an important bearing on the application of Mendel's "principles" to his mice. Until these new facts are available, I do not think further discussion will be profitable, and therefore I do not propose to continue this correspondence.

Oxford May 6. W. F. R. Weldon.

[This correspondence must now cease.—Ed.]

INTERNATIONAL METEOROLOGICAL COMMITTEE.

THE International Meteorological Committee appointed by the Paris Congress of 1896 in succession to those appointed by previous congresses, commencing with the Vienna Congress of 1873, will meet this year at Southport during the session of the British Association, September 9 to 16. The committee held a single meeting in the room at the top of the Eiffel Tower in 1900; its last normal session was at St. Petersburg in 1899. It has not met in England for twenty-six years. The original "permanent" committee was appointed by the Vienna Congress in 1873, and consisted of six members under the presidency of Buys Ballot; its successor now numbers seventeen members, representing a large number of the official meteorological organisations of the world. Prof. Mascart, of the Bureau Central Météorologique of France, is president, and Prof. H. H. Hildebrandsson, of the Royal Observatory of Upsala, is secretary, having been elected to that office on the resignation of Mr. Scott, who was secretary from 1874 (the Utrecht meeting) until the close of 1899. The other members are Prof. von Bezold (German Empire), Prof. Billwiller (Switzerland), Captain Chaves (Azores, Portugal), W. Davis (Argentine), Sir J. Eliot, K.C.I.E. (India), Prof. S. Hepites (Roumania), Prof. H. Mohn (Norway), Prof. Willis L. Moore (United States), Prof. L. Palazzo (Italy), Prof. Paulsen (Denmark), Prof. J. M. Pernter (Austria), Mr. H. C. Russell, C.M.G. (Australia), General Rykatcheff (Russia), Mr. W. N. Shaw (Great Britain), and Prof. H. Snellen (Holland).

The functions of the committee are to discuss meteorological questions of international interest and formulate proposals for international cooperation in connection therewith. The deliberations have an official character in virtue of the committee being appointed by a congress of representatives delegated in response to an official invitation of one or other of the European Governments, but the committee has no executive authority. It has been the practice for the committee to appoint from time to time various "commissions" or subcommittees to prepare reports upon questions that require preliminary discussion. The members of these subcommittees are not necessarily members of the international committee. They meet from time to time on the invitation of their respective chairmen, and opportunity is often taken of the occasion of the meeting of a subcommittee to obtain more general discussion by inviting other persons interested in the special subjects to take part in the proceedings, and sometimes to become members of the subcommittee. There are at present five subcommittees, constituted as follows:—

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(1) *Terrestrial Magnetism.*—Sir Arthur Rücker (chairman), Messrs. Litznar, Moureaux, Palazzo, Paulsen, von Rijkevorsel and Rykatcheff.

(2) *Radiation and Insolation.*—Prof Viollo (chairman), MM. Angstrom, Chistoni, Chwolson, Snellen, Stupart, and Tacchini.

(3) *International Weather Telegraphy.*—Prof. J. M. Pernter (chairman), Messrs. Billwiller, Mohn, von Neumayer, Rykatcheff, Snellen, Tacchini.

(4) *Cloud Observations.*—Prof. H. H. Hildebrandsson (chairman), Messrs. Mohn, Riggenbach, Rotch, Rykatcheff, Sprung, and Teisserenc de Bort.

(5) *Aëronautics.*—Prof. H. Hergesell (chairman), MM. Assmann, Erk, de Fonvielle, Hermite, Jaubert, Pomortzeff, and Rotch.

To the last mentioned the following names have been provisionally added by cooptation:—Messrs. Berson, Angot, Bouquet de la Grye, Cailletet, Rowanko, in 1898; Prince Roland Bonaparte, Tacchini, Teisserenc de Bort, Hildebrandsson, Pernter, Hinterstoisser, Moedebech de Sigsfeld, in 1900, and others in 1902.

The subcommittee on terrestrial magnetism held a very successful meeting at Bristol during the session of the British Association in 1898. All the subcommittees met in Paris in 1900, and the aëronautical committee met in Berlin in 1902. The subcommittee on cloud observations has completed its work for the time being, and Prof. Hildebrandsson's report has just been published.

The subcommittee upon weather telegraphy will meet at Southport, but information as to proposed meetings of other subcommittees is not yet forthcoming.

Two conspicuous considerations point to the forthcoming meeting of the committee as one of exceptional interest and importance. The first is meteorological. The situation of the British Isles with regard to the Atlantic must necessarily attract the attention of all meteorologists. The problems which that situation brings into prominence are doubtless among the most difficult, but at the same time the most interesting of meteorological inquiries. The second is economical or social. This country is a great centre for communication with all parts of the globe, and in spite of, or perhaps because of, its insular position, is easy of access from all quarters. There are, therefore, good grounds for expecting that the hospitality of the British Association and of Southport will result in a meeting of unusual interest as regards meteorology and the kindred sciences.

No programme of proceedings has yet been issued. The executive meetings of the committee must necessarily be exclusive, but opportunity will be afforded for the discussion of meteorological questions of general interest in connection with the meetings of Section A, as was the case with the magnetic subcommittee at Bristol. Among the new subjects which will come before the committee may be mentioned the special question of the relation between meteorology and solar physics, the discussion of which it is hoped may be initiated by the president of the British Association.

Southport has special appropriateness for such a meeting. Its meteorological establishment, the Fernley Observatory, under the direction of Mr. J. Baxendell, is a conspicuously successful example of municipal enterprise in that direction. In connection with the meeting, provisional arrangements have been made for an exhibition of novel meteorological appliances and other objects of meteorological interest. A committee representing the Meteorological Council, the Royal Meteorological Society, and the Scottish Meteorological Society, with some additional members, has been formed to carry out the arrangements.

MAORI ART.[1]

NOT only students of Maori ethnography, but those who are interested in artistic technology, will heartily congratulate Mr. A. Hamilton on the completion of his great work on "Maori Art." Although this magnificently illustrated monograph nominally deals with decorative art, it is by no means confined to that subject, as for many years Mr. Hamilton has been diligently collecting facts and illustrations which bear on the social life of the Maories. Many interesting customs have been omitted as being beyond the scope of the work; usually only those matters are considered which are connected more or less closely with objects which are capable of being figured. Not too soon has Mr. Hamilton applied himself to his labour of love; constantly throughout the book do we find uncertainty as to the exact significance of patterns and designs, and occasionally objects are figured of which the use or meaning is very doubtful. Nor is this indefiniteness due to lack of energy on the part of the author; it is merely another example of the great change that is so rapidly modifying the majority of backward peoples. "How much interesting information," Mr. Hamilton writes, "has been lost can be estimated by the fragments which have been gathered. The system of laws for the government of the body politic known as *tapu*, was the outcome of centuries of experience of practical socialism. However irregular, capricious, and burdensome it may now appear to have been, it was certainly the source of order to them, and was of great use to conserve them as a race, and to sharpen their intellectual and moral faculties, besides retaining the canon of art in its native purity. As Mr. Colenso points out, when all this was swept away, together with polygamy and slavery, without anything to replace them, the nation, as a people, was broken up. 'However distasteful, he says, 'these three things might be to an European and Christian, they were the life of the New Zealander. They were, perhaps, the three rotten hoops round the old cask, but they kept the cask together.'"

The work consists of five parts, of which the first part contains an account of Maori canoes, with ten plates. Part ii. deals with Maori habitations, with diagrams of the construction of a house, plans and sections of a fortified *pas*, with fifteen plates, and a valuable essay by the Rev. Herbert Williams on Maori rafter patterns, illustrated by twenty-nine coloured examples; these have never been described, and therefore the explanation of Mr. Williams of the patterns is doubly welcome. The weapons and tools are described in the third part, and are illustrated by eleven plates. The fourth part deals with dress and personal ornaments, with fifteen plates. The final part is devoted to the social institutions of the Maori people, with descriptions of their games, amusements, and musical instruments, with thirteen plates. Each of the sixty-four plates contains illustrations of several objects, and there are numerous figures in the text, so that the total number of illustrations is very large, and all of them are of excellent quality and constitute a mass of information for the ethnographer, and a wealth of material for the student of art. A noticeable feature of each part is the list of words relating to the subject-matter of that part, which forms a valuable subject vocabulary, which will prove of great use to students.

The wood-carving of the Maories is very characteristic, as regards both technique and *motive*. The designs are carved with great boldness, considerable relief is employed, and the background is usually filled up with labyrinthine designs, the spaces of which are

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[1] "Maori Art." By A. Hamilton. Pp. 439; 64 plates and numerous illustrations in the text. (New Zealand Institute, Wellington, N.Z.) Price 4*l.* 4*s.*

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